

Please do the following for each question

- a. pick a variable and define it
- b. Write and Solve an Inequality statement
- c. Graph the solution
- d. Write a sentence explaining your answer

- 1) One salesperson earns \$1600 per month. A second sales person earns \$500 plus 5% of their sales per month. For what amount of sales would the second sales person earn more than the first?
- 2) Perfect Pipes charges \$120 plus \$40 an hour to make plumbing repairs. No Leaks Here charges \$50 plus \$60 an hour. For how many hours is Perfect Pipes less expensive than No Leaks Here?
- 3) During the track season, Larry tries to drink at least 8 cups of water each day. So far today, he drank a 24 ounce bottle of water. Write and solve an inequality to determine how many more ounces of water Larry must drink to fulfill his daily goal. (Hint: 1c= 8ounces)
- 4) Mary must sell 40 tickets to the school show to reach her goal. She has already sold 26 tickets. Use the steps above to determine the number of tickets she still need to sell to reach her goal.
- 5) A red kite is 100 feet off the ground and is rising at a rate of 8 ft. per second. A blue kite is 180 feet off the ground and is rising at a rate of 5 ft. per second. How long will it take for the red kite to be higher than the blue kite? Round your answer to the nearest second.

Answer Key

1. S= sales

1st salesperson earns \$1600

2nd salesperson earns \$500 plus 5% of their sales

$$1600 < 500 + 5\% s$$

$$22,000 < s$$

If the second salesperson sold more than \$22000 in merchandise he/she would earn more than the first salesperson.

2. H= hours

Perfect pipes charges \$120 plus \$40 per hour worked

No Leaks Here charges \$50 plus \$60 per hour worked

$$120 + 40H < \$50 + 60H$$

$$3.5 < H$$

If the serviceman works more than 3.5 hours perfect pipes is the less expensive company.

3. O = ounces

*** Hint $\frac{1c}{8c} = \frac{8 \text{ ounces}}{x \text{ ounces}}$

$$X = 64$$

Goal 64 ounces of water

Drank 24 ounces

$$24 + o \geq 64$$

$$o \geq 40$$

Larry needs to drink at least 40 ounces of water to reach his goal.

4. T= tickets

Goal sell 40 tickets

Already sold 26 tickets

$$26 + t \geq 40$$

$$t \geq 14$$

She needs to sell at least 14 tickets to reach her goal.

5. S= seconds

$$100 + 8\text{ft per sec.} > 180 + 5\text{ftper sec}$$

$$s > 26.6$$

the red balloon will be higher than the blue balloon in 27 seconds. Please remember the question said to round your answer to the nearest second.